

# ABSTRACT

A start up circuit includes: a diode Q0; a first transistor Q1 coupled in series with the diode Q0; a first resistor R4 coupled in series with the first transistor Q1; a second transistor Q2 having a control node coupled to a control node of the first transistor Q1 and coupled to a node between the first transistor Q1 and the first resistor R4; and a second resistor R2 coupled in series with the second transistor Q2 such that a current in the second transistor Q2 is independent of a voltage applied across the diode Q0, the first transistor Q1, and the first resistor R4.